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UNITED STATES DEPARTMENT OF AGRICULTURE

FOREST SERVICE

ANNUAL FOREST INSECT STATUS REPORTS
UNITA NATIONAL FOREST

Nov. 6, 1933

M—5123

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Salt Lake City, Utah
October 20, 1934.

BUREAU OF ENTOMOLOGY
RECEIVED
NOV - 7 1934
Coeur d'Alene, Ida. Station

S
Insect Control
Uinta

MEMORANDUM ON MOUNTAIN PINE BEETLE CONTROL WORK:

The cost per tree during the first eight and one-half days of control treatment on the Soapstone and Wolf Creek areas amounts to $2.10. A total of 220 trees have been treated at a cost of $462.00. Ranger Adair who is conducting the work on these areas estimates that a little more than two sections of land have been covered by his crews and that the number of infested trees found thus far is running about 25% over the cruise which estimated a total of 1,300 infested trees.

The estimated cost of $1.50 per tree has been exceeded because of the widely scattered bug trees in mixed Douglas fir-spruce type and also the inexperience of some of the men. The men, however, are becoming proficient in the work and find it possible to proceed with more precision and speed. Some of the defects which were apparent when the work was started, such as insufficient burning around the bases of the trees (particularly the larger trees with thick bark), failure to burn all the brood in the upper bole and in the larger branches and the leaving of an occasional inconspicuous bug tree, have been corrected and a thorough type of work is now being accomplished.

Because of heavy snowstorms on the evening of the 18th and continuing through the 19th, it was necessary to discontinue operations for a few days. Probably work will be reassumed on the 23rd or 24th of October.

Conditions for treating during the coming week should be very good.

No data are available on the Tabby Mountain project since the camp was moved in just before the storm and work was not yet well under way.

At Ranger Adair's request I plan to visit his project again at the end of next week and should like to visit the Tabby Mountain project at the same time.

LOWELL J. FARMER
E.C.W.Forester

(COPY)

Provo, Utah
October 13, 1934

S
Insect Control
Uinta

REGIONAL FORESTER:

Insect control report for the Uinta Forest is submitted herewith.

Surveys were completed this fall of all known lodgepole infestations of mountain pine beetle. The important points of the reports are quoted below:

Tabby Mountain Area: (by Asst. Supervisor Geo. C. Larson)

"On Tabby it appears that there will be about 500 trees to treat. We ran 535 chains of strip 1 ch. wide, or 53.5 acres, on which the newly infested trees were counted. 62 trees were found, most of which were only attacked for the lower 10 feet. The cruise covered nearly 12% of the lodgepole area.

"I am unable to account for the large number of trees still on Tabby as we did not find evidence of escape of very many. I believe we should be sure about burning the first 2 feet from the ground line as I noticed several trees where bugs had emerged near the ground. Probably the trees had been wet and the heat did not penetrate.

"Most of the attacks were blind or showing practically no pitch tubes which will make it hard to find all of the trees especially if there is some snow around the base so the sawdust cannot be seen. One more treatment should clean up Tabby unless they come a great distance."

Nobletts, Soapstone & Wolf Creek Area: (by Ranger Adair)

"Following is the result of the cruise of the insect infested lodgepole pine on District No. 5:

	Acres of Lodgepole	Number of Infested Trees
Total on untreated areas	3,204	821
Total on treated areas	1,137	465
	4,341	1,286

"A ten per cent cruise was made of the limber pine area but no infested trees were located and that area is not included in the above.

"A ten per cent cruise of all treated areas was made and not less than a five per cent of the untreated areas."

It seems we have about the following numbers of trees to be treated this fall or next spring:

Tabby Mountain	449 acres	500 trees
Nobletts & Soapstone	4341 "	1300 "
		1800

Due to the most of the trees being scattered over a large area, the cost of control and to clean up will be high, probably around $1.50 per tree, or a total of $2700.

There has not been sufficient storm thus far to do control work everywhere but Ranger Adair has one crew at work at higher elevations and on north slopes in the Soapstone country, and more crews will be put on the other areas if more favorable burning weather comes later. It is our aim to do as much cleaning up this fall as possible. In addition to the $450 previously allotted for survey, a part only of which has been used for that purpose, $2400 should be provided to do the job.

No serious damage by other species of insects has been noticed except as reported on heretofore and not justifying control measures.

(Sgd.) CHAS. DeMOISY, Jr.

Forest Supervisor

IMS R 4 W

(COPY)

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Insect Control, Uinta

Provo, Utah
November 6, 1933

Annual Report to Regional Forester

The extremely dry summer of 1933 evidently caused an alarming increase in the Lodgepole Pine beetle on this Forest as shown by the cruises made this fall.

In former years a few scattered trees had been noticed east of Soapstone Cr., with rather weak attacks, which did not warrant the expense of treatment, but this fall Ranger Adair noted many new attacks and after making a thorough cruise located over 1100 Lodgepole trees which should be treated.

The Nobletts area lying west from Soapstone has not yet been cruised but the Ranger estimates that between 800 and 900 more trees will be infested here. This includes the portion of the Nobletts study area, which is located on the Wasatch National Forest, but which is to be treated by the Uinta force. It also includes the remaining infested limber pine trees on the Nobletts study area. A separate letter is being written requesting discontinuance of the study plot and permission to cut the infested limber pine as it appears that the experiment may well be ended and the infested trees cut as they are a menace to surrounding timber.

On Tabby Mtn., on the east end of Ranger Adair's district, another infestation in Lodgepole has assumed alarming proportions. In 1931 and 1932 cruises were made of this timber which showed that the insects were endemic and control measures unnecessary. Ranger Adair's check on the beetles this fall showed many new, heavy attacks where only a few weak attacks had been found before. A small crew was put to work to make a 100% cruise which resulted in finding 760 trees infested. This body of timber consists of 4 million board ft. of mature Lodgepole and also considerable young stuff below 10 inches which has not been bothered by the beetles. The mature stuff is very large, trees to 35 inches being common and as the attacks run high in these trees and the bark is thick it is necessary to cut three fourths of the trees. About the same proportion of the trees was cut in the Soapstone area. This will greatly facilitate burning next spring, as the felled trees will be partly dry and the labor of cutting the trees has already been done on the areas covered.

It was expected that burning could be prosecuted this fall but owing to lack of moisture no burning has been possible.

Annual Report to Reg. Forester

About half of the oil needed was placed on the areas ready to use at the first storm. We also have enough other equipment to finish the job.

As these trees are large and thick-barked, necessitating cutting an unusually large proportion of them and it is necessary to transport the oil on horses several miles, the cost of treatment will be higher per tree than is usually the case.

$1500.00 has been allotted the Forest already for insect control work and nearly all will be used up when operations cease for the winter, when more than 1,000 of the largest trees will have been felled and brushed up and nearly all of the areas will be cruised and the trees mapped. It is estimated $1500.00 additional will be needed for the burning operation next spring and it is requested that this sum be allotted this Forest for the work.

In 1932 beetles did some damage in Douglas fir and Spruce in Wolf Cr., but Ranger Adair has been able to check these outbreaks through directing cutting of timber into the infested timber. He reports but few new attacks in each of these species.

Alpine Fir is steadily being killed by Dryocetes but the values involved are so small that no treatment is recommended.

/Sgd./ CHAS. DeMOISY, Jr.
F.S.

UNITED STATES DEPARTMENT OF AGRICULTURE
FOREST SERVICE
INTERMOUNTAIN REGION

BUREAU OF ENTOMOLOGY
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Coeur d'Alene, Ida. Station

ADDRESS REPLY TO
REGIONAL FORESTER
AND REFER TO

FOREST SERVICE BUILDING
OGDEN, UTAH

AS (S)
Insect Infestation
Uinta - Wasatch
Nobletts Area

January 9, 1932.

Mr. James C. Evenden,
Forest Insect Field Station,
Coeur d'Alene, Idaho.

Dear Mr. Evenden:

Your letter of January 3 is received.

We are very glad to have you take an interest in our study on the Nobletts Area of the Uinta Forest and are sending you map and additional information concerning it. We shall appreciate your comments and suggestions as to any way in which we may make the study of greater benefit.

We propose to make a thorough clean-up of the lodgepole again in the spring and a close check of the beetle flight in the fall of 1933. If we find considerable reinfestation of lodgepole in the fall of 1933 there will be little doubt but that the beetles are coming from limber pine. There is then the question of what is best to do. We cannot go on treating the same area year after year.

In case it is possible for you or any of the members of your office to go over this area during the coming field season we shall be very happy to have you do so.

Very sincerely yours,

C. B. Morse,

Encl.

Assistant Regional Forester.

(COPY)

November 30, 1932.

AS (S)
Insect Infestation
Uinta - Wasatch
Nobletts Area

MEMORANDUM FOR FILES:

On November 26 Messrs. Larson and Adair of the Uinta Forest, Betenson, Parke, and Davis of the Wasatch Forest, Sanford and Millard from the R.O. went over the Nobletts study area with the idea of determining whether any results of a definite nature had been secured by study so far conducted.

The limber pine area in Sections 18, 19, and 20 were looked over carefully and Millard and Davis ran 80 chains of line to determine the extent of present infestation, the number of trees already killed and the number not yet attacked. These data have been assembled and applied to the entire limber pine area which is an area of 288 acres. These figures are given below:.

Strip No.	Direction	Distance (chains)	No.trees infested		No.trees killed	No.trees not attacked	
			Under 6"D.B.H.	Over 6" D.B.H.		Below 6"	Above 6"
1	N.	11	-	7	20	8	7
2	E.	10	-	4	22	13	1
3	S.	14	-	3	33	7	2
4	E.	10	-	1	2	2	3
5	N.	20	-	3	33	11	5
6	E.	10	-	-	-	6	13
7	S.	5	-	-	-	-	3
		80	-	18	120	47	34
	Total * 288 acres		-	634	4320	1670	1217

* Above figures apply to entire limber pine stand

Memo.

In making this cruise it was presumed that 6" D.B.H. is as low as the beetles had infested trees or were likely to infest them. It was found that no trees below 6" had been infested and that the greater number of those left were between 6" and 8". In talking this situation over with Entomologist James C. Evenden of the Coeur d'Alene field station, he stated that it was probably well that we took this low diameter since in the later stages of infestation when host material is becoming scarce smaller trees are sometimes attacked. This has proven to be the case in lodgepole pine where many trees 4" to 6" had been infested in the final stages.

In covering the area we took into consideration the areas treated in June, 1932, and the survey figures on those same areas in the fall of 1932. Some of them are rather perplexing. In the NE¼ of Section 21 were five mature lodgepole pine trees. One of these was found infested and it was thoroughly burned in June, 1932. This fall the other four trees are heavily infested. In the lodgepole area in the S½ of Section 17, 11 trees were burned in June, 1932 and this fall there are 30 new attacks. In the NW¼SW¼ of Section 8, five trees were treated in June, 1932 and this fall there are approximately 45 new attacks. In the S½ of Section 13, two trees were treated in June, 1932 and this fall there are nine new attacks.

These facts point strongly to the probability of flight from the limber pine area in Sections 18, 19, and 20 to the lodgepole areas which have been mentioned. The only loophole in this supposition seems to be the failure to get a complete clean-up in the N½ of Section 12 where approximately 50 lodgepole pine trees were not treated until late in July, 1932. There are sufficient new attacks in this immediate vicinity, however, to account for any beetles which might have escaped from these trees and furthermore, it does not seem probable that these beetles would have spread from below the crest of the ridge to areas as remote as those in Sections 8, 13, 17, and 21.

In order to eliminate any possibility of error in our conclusions it was decided to thoroughly clean the lodgepole areas again in the spring of 1933 leaving the limber pine untouched as heretofore. The Uinta will take everything in the Uinta Forest and will go down below the rim in Sections 7, 8, 11, and 12 while the Wasatch will cover everything below the breaks in Soapstone Creek and Provo River. This matter was talked over in the field and the field men seemed to have a clear understanding of the division of work. There must be no doubt about this, however, and a check-up should be made in the spring to be absolutely sure that no areas are missed. In all probability the beetles will have to spread out somewhere from the limber pine area next year and this may be our last opportunity to get a determination of the spread from limber pine to lodgepole.

Incidentally, this study will also enable us to get additional information on the length of flight which may be expected.

(S) EARL C. SANFORD

A. A. R. F.

(COPY)

RS
P1-4, Uinta
Nobletts Area 1932

REPORT ON CONTROL WORK ON NOBLETTS AREA

Previous correspondence shows how the Nobletts area came into notice during 1931 and the various examinations made which resulted in Forest officers DeMoisy, Adair, Nielson, Richards and Larson going onto the area in April of this year, while the snow was from 1 to 5 ft. deep and making a cruise of the infested limber pine and the timber within a radius of 1½ to 2 miles. Each section was platted on an 8" scale and later a map on a 2" scale was prepared, showing types, infestation and topography. A 100% cruise was made of the limber pine and lodgepole areas and of portions of the fir where it appeared likely we would find individuals of the other two species. A less intensive cruise was made of the balance of the fir.

It was possible to show the lodgepole in solid bodies or as scattered individuals, but not so with the limber pine. However, where it occurred as scattered individuals enough were shown on the map so they will be visited on subsequent cruises. The areas shown as solid lodgepole are in mixture with fir, but are shown solid so later cruises will be 100% of these areas.

The attacks on the limber pine were uniformly successful, as we found practically none pitched out. The beetles had worked here for many years but only since 1929 had epidemic conditions prevailed. Even up to 1931 many trees had been hit twice before the tree was killed. The lodgepole attacks were much weaker, many trees not being killed but being hit for several succeeding years. Ten or 12 years ago many trees had been killed here by the beetles but the epidemic condition had been relieved since.

As it was not possible to burn the trees at the time the cruise was made, it was deferred until June 6 when Ranger Adair, a temporary man, and myself started treating. During the next 10 days we burned 118 trees, nearly all of which were felled and then packed with limbs and dry material before spraying with oil and burning. The job was slow owing to the wet weather and the fact that the trees felled were large and dry material hard to obtain. 80 gallons of gas oil obtained through the Wasatch Forest and 20 gallons of kerosene were used. 63 of the trees burned were over the line on the Wasatch Forest, as it was easier to do this work from the top than for the Wasatch personnel to climb up from the Provo River to treat

these trees. This was in accordance with the conversation Morse, Sanford, Betenson and Larson had in Cascade in May.

The beetles found in the limber pine have twice been identified by the Bureau of Entomology as Dendroctonus monticolae, the same as are found in the lodgepole of the vicinity, and it is therefore absolutely necessary to make a thorough clean-up of the beetles already found in the lodgepole. In addition to the work we did, Ranger Parke and Robert Davis treated a number of trees south of the Provo River on the area we had previously agreed they should clean up.

On June 7 and 15 I talked with Ranger Parke and told him just where we would work and what we would leave.

On July 15 and 16 Mr. Sanford and I went over the area of limber pine and the lodgepole where we had treated trees. The treated trees were found satisfactory and a better plan for handling the study was evolved. In the north half of Section 12, on the Provo River slope we found 12 trees which had not been treated. This was on the part specifically mentioned in my talks with Ranger Parke as being part of the Wasatch job. It is unfortunate that this has occurred, as it sets the experiment back a year.

It will be necessary to have a thorough clean-up this fall of the beetles left in the newly attacked trees.

In September or October the entire area having lodgepole or limber pine will again be gone over and the new attacks noted and any infested lodgepole treated. It is not believed that migration from the limber pine to the lodgepole will take place this year, as considerable limber pine host material is still left.

A report of the work on this area will be made after the fall campaign is completed.

(S) GEO. C. LARSON

A.F.S.

RS
Pi-4, Uinta
Nobletts Area

NOBLETTS AREA INSECT CONTROL

Purpose of Study - To determine whether mountain pine (D. monticolae) beetles spread from limber pine (Pinus flexilis) to lodgepole pine (Pinus contorta).

Method of Study - Area chosen contains both limber pine and lodgepole pine. Limber pine is heavily infested with D. monticolae. Lodgepole pine is lightly infested, a few trees with moderately heavy attacks but most of them light. Infested lodgepole pine will be treated (burned) to kill beetles and larvae, limber pine left for observation. Area will be carefully cruised and mapped and observations made annually in the fall.

Assignment - Project will be initiated by the personnel of the Uinta Forest, Asst. Supervisor Larson in direct charge of project assisted by Forest Rangers E. J. Adair, Merrill Nielson, and A. F. Richards. As the project includes a portion of the Wasatch Forest it will be the responsibility of that Forest to treat all infested lodgepole pine between Provo River and the top of the ridge, which is now the inter-forest boundary.

Duration of Project - Approximately 5 years. As long as mature limber pine lasts the beetles may not find it necessary to attack other species, but at the present rate of spread this should not be more than 5 years.

(S) GEO. C. LARSON

A.F.S.

Provo, Utah
July 19, 1932

S

Insect Control, Uinta

Provo, Utah
October 26, 1931

REGIONAL FORESTER:-

Further reference is made to my memorandum of October 18.

The following additional information is submitted as a result of surveys recently completed.

Nobletts Cr. in approximately Sec. 18, Twp. 3 S., R. 8 E., S.L.M.

This is found to be a rather vicious attack, presumably of the mountain pine beetle. So far as known, it began in the season of 1930 and is confined to limber pine trees found in mixture with Douglas fir. There are approximately 150 newly infested trees and not much host material left in the stand.

The main question with this infestation seems to be as to whether the attack will jump to somewhat distant lodgepole stands on the Uinta and Wasatch Forests. The nearest lodgepole is about 2½ miles distant.

I do not know what experience has been gained with limber pine infestations elsewhere, but in view of the fact that this stand is pretty well cut off with not many limber pine or host trees left in it, a policy of watchful waiting should be followed to see that there is no spread of the infestation to lodgepole in other drainages from 2½ to 8 miles distant.

Tabby Mtn. Sec. 29, Twp. 1 S., R. 8 W., U.S.M.

In a section of land covered with fairly dense lodgepole pine timber on the top of Tabby Mtn. at an elevation of 9900 feet, approximately 75 newly attacked trees were found. These are pretty well scattered and apparently not as many new attacks in the stand as trees killed last year. However, it is believed that control measures should be undertaken in May of next season to forestall any outbreak. This can be done by our regular ranger force with approximately $35.00 for temporary help. The crew should be equipped to spot, fell and burn the newly infested trees at one operation.

Wolf Cr. Summit Sec. 3, Twp. 4 S., R. 8 E., S.L.M.

Near the divide between Wolf Cr. and Potts Hollow, some beetle in-

Regional Forester

festations in Engelmann spruce have been observed. These seem to be confined pretty well to a small grove of trees, most of which may be cut and removed during the present winter under sale. All infested trees will be marked for cutting.

Specimens of beetles and bark taken at these places are being forwarded under separate cover for identification.

Chas. DeMoisy, Jr.

CC - Ranger Adair F.S.
(Extra copy for R.F.)

Note for Ranger Adair:-

It would seem that we need to know positively that there is no infestation in lodgepole nearest to the infestation in Nobletts Cr. No doubt, you can make some observations in these lodgepole stands yet this fall.

DeM

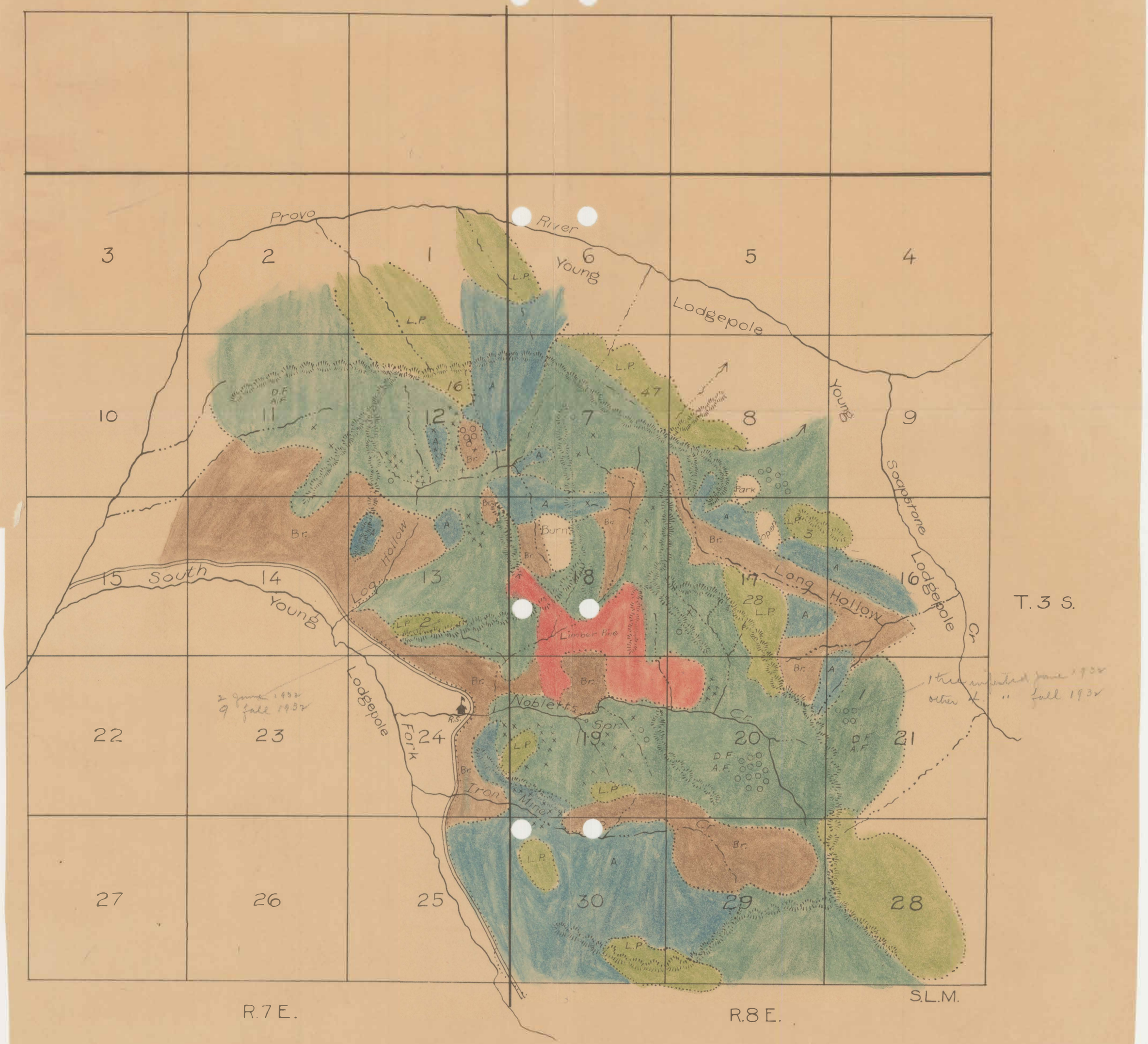
WASATCH NATIONAL FOREST

S- Insect Control

April 1932

Legend

- Fir, D.F. & A.F. with a few spruce
- Lodgepole Pine in mixture with fir
- Limber Pine in mixture with fir
- Aspen
- Brush
- 16 — Number of Lodgepole trees infested in type
- x — Healthy Limber Pine (scattered)
- o — Healthy Lodgepole (scattered)



2 trees infested June 1932
9 " fall 1932

1 tree infested June 1932
Other 4 " fall 1932

A.R.H.
5-25-32